CLAIMS

1. A shift control device of an automatic transmission (300) transmitting power from an engine (100), said automatic transmission (300) including a friction engagement element (310) that is engaged in a drive position and disengaged in a non-drive position, an engagement pressure of said friction engagement element (310) being controllable by direct pressure, comprising:

detection means for detecting a shift from said non-drive position to said drive position;

output means for outputting a command to execute an output lowering process of said engine (100) to an engine control device (1010) in response to detection of the shift to said drive position;

detection means (410) for detecting an input revolution number to said automatic transmission (300); and

control means (1020) for starting engagement of said friction engagement element (310) by direct pressure control in response to detection of said input revolution number having been decreased to a predetermined revolution number by said output lowering process.

2. The shift control device of an automatic transmission (300) according to claim 1, further comprising means for controlling the engagement pressure using the direct pressure control to suppress transmission of the power by said friction engagement element (310) in response to detection of the shift to said drive position.

3. The shift control device of an automatic transmission (300) according to claim 1, wherein said predetermined revolution number is set based on a heat absorption amount of said friction engagement element (310) at the time of engagement.

4. A shift control device of an automatic transmission (300) transmitting power from an engine (100), said automatic transmission (300) including a friction engagement element (310) that is engaged in a drive position and disengaged in a non-drive position, an engagement pressure of said friction engagement element (310) being controllable by direct pressure, comprising:

detection means for detecting a shift from said non-drive position to said drive position;

output means for outputting a command to execute an output lowering process of said engine (100) to an engine control device (1010) in response to detection of the shift to said drive position; and

control means (1020) for starting engagement of said friction engagement element (310) by direct pressure control after a lapse of a predetermined period of time following initiation of said output lowering process.

5. The shift control device of an automatic transmission (300) according to claim 4, further comprising means for controlling the engagement pressure using the direct pressure control to suppress transmission of the power by said friction engagement element (310) in response to detection of the shift to said drive position.

6. The shift control device of an automatic transmission (300) according to claim 4, wherein said predetermined period of time is set based on a time when a revolution number to said automatic transmission (300) becomes a revolution number that is set in accordance with a heat absorption amount of said friction engagement element (310) at the time of engagement.

7. The shift control device of an automatic transmission (300) according to any of claims 1-6, wherein said drive position is a forward drive position, said non-drive position is a neutral position, and said friction engagement element (310) is an input

clutch.

8. A shift control device of an automatic transmission (300) transmitting power from an engine (100), said automatic transmission (300) including a friction engagement element (310) that is engaged in a drive position and disengaged in a non-drive position, an engagement pressure of said friction engagement element (310) being controllable by direct pressure, comprising:

a detection unit detecting a shift from said non-drive position to said drive position;

an output unit outputting a command to execute an output lowering process of said engine (100) to an engine control device (1010) in response to detection of the shift to said drive position;

a detection unit (410) detecting an input revolution number to said automatic transmission (300); and

a control circuit (1020) starting engagement of said friction engagement element (310) by direct pressure control in response to detection of said input revolution number having been decreased to a predetermined revolution number by said output lowering process.

9. The shift control device of an automatic transmission (300) according to claim 8, further comprising a circuit controlling the engagement pressure using the direct pressure control to suppress transmission of the power by said friction engagement element (310) in response to detection of the shift to said drive position.

10. The shift control device of an automatic transmission (300) according to claim 8, wherein said predetermined revolution number is set based on a heat absorption amount of said friction engagement element (310) at the time of engagement.

11. A shift control device of an automatic transmission (300) transmitting power from an engine (100), said automatic transmission (300) including a friction engagement element (310) that is engaged in a drive position and disengaged in a non-drive position, an engagement pressure of said friction engagement element (310) being controllable by direct pressure, comprising:

a detection unit detecting a shift from said non-drive position to said drive position;

an output unit outputting a command to execute an output lowering process of said engine (100) to an engine control device (1010) in response to detection of the shift to said drive position; and

a control circuit (1020) starting engagement of said friction engagement element (310) by direct pressure control after a lapse of a predetermined period of time following initiation of said output lowering process.

12. The shift control device of an automatic transmission (300) according to claim 11, further comprising a circuit controlling the engagement pressure using the direct pressure control to suppress transmission of the power by said friction engagement element (310) in response to detection of the shift to said drive position.

13. The shift control device of an automatic transmission (300) according to claim 11, wherein said predetermined period of time is set based on a time when a revolution number to said automatic transmission (300) becomes a revolution number that is set in accordance with a heat absorption amount of said friction engagement element (310) at the time of engagement.

14. The shift control device of an automatic transmission (300) according to any of claims 8-13, wherein said drive position is a forward drive position, said non-drive position is a neutral position, and said friction engagement element (310) is an input clutch.